



2012 Toward Safe Harbours

Report Card



BAY AREA
RESTORATION
COUNCIL

HamiltonHarbour.ca

2012 Toward Safe Harbours Report Card

The Bay Area Restoration Council's 2012 *Toward Safe Harbours Report Card* is an assessment of the progress and success of activities to restore Hamilton Harbour under the Remedial Action Plan, and more broadly reflects a sense of the overall ecosystem health of the Harbour and its watershed.

Since 1994, the Bay Area Restoration Council (BARC) has produced an annual *Toward Safe Harbours* report on the progress of the Hamilton Harbour Remedial Action Plan (HHRAP) and other issues affecting Harbour watershed restoration. This report is produced on behalf of BARC's Board of Directors by a group of volunteers and technical assistants who form the BARC Monitoring Committee. The reports are written for the scientists, decision-makers, and citizens of Hamilton Harbour.

The 2012 *Toward Safe Harbours Report Card* is an update of report cards produced in 2002 and 2007. The Report Card uses the seven general categories related to implementation actions established by the HHRAP process, but occasionally the report card identifies potential threats and actions related to issues beyond the current scope of the HHRAP that nevertheless may affect the success of Bay Area restoration.

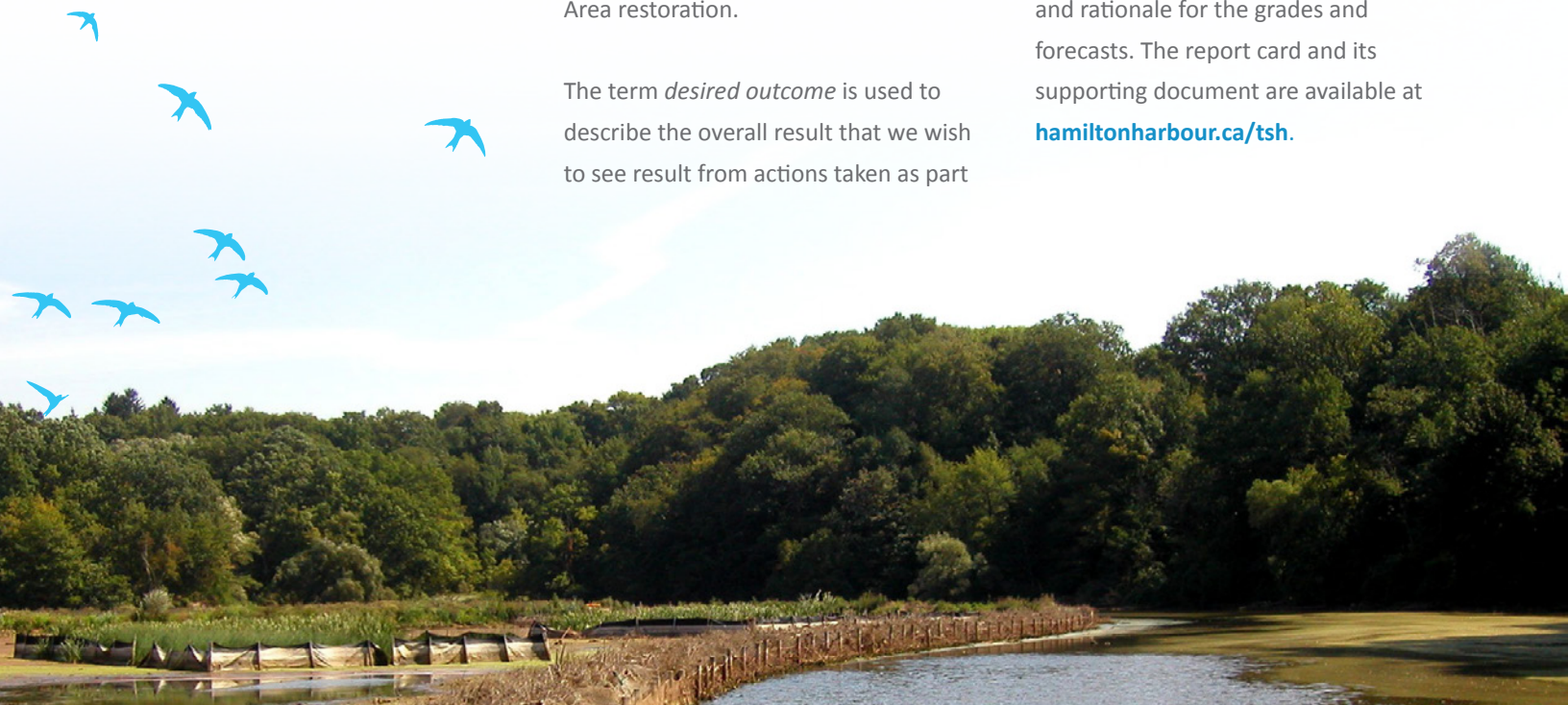
A+	Exceptional
A	Excellent
B+	Very good
B	Good
C+	Competent
C	Adequate
D+	Passing
D	Barely Passing
F	Failure

The term *desired outcome* is used to describe the overall result that we wish to see result from actions taken as part

of the HHRAP. The grading is largely an assessment of progress made by the HHRAP since 2007, and the accompanying bullets highlight what has happened to help achieve that progress. The term *forecast* is used to reflect BARC's view of whether the proposed work is moving toward the desired outcome (up) or away from the desired outcome (down).

To link with previous report cards, a stop-light colour system is used. If the 2012 grade has increased since 2007, the letter is shown in **green**; if it is unchanged, it is shown in **yellow**; and if it has decreased, it is shown in **red**.

The 2012 *Toward Safe Harbours Report Card* illustrates the significant progress achieved in many areas of the Hamilton Harbour Remedial Action Plan in recent years. We acknowledge and recognize the tremendous and continuing progress of RAP stakeholders and the community towards delisting. We have come a long way, but much remains to be done. The 2012 *Toward Safe Harbours Report Card Supporting Document* includes additional details and rationale for the grades and forecasts. The report card and its supporting document are available at hamiltonharbour.ca/tsh.



Bay Area Restoration Council

The Bay Area Restoration Council (BARC) represents the public interest in efforts to restore and protect the ecosystem health of Hamilton Harbour and its watershed. More specifically, BARC is a charitable organization established in 1991 to promote, assess, and monitor progress of the Hamilton Harbour Remedial Action Plan (HHRAP). BARC members represent community organizations, public agencies, commercial interests, and the general public.



Hamilton Harbour Remedial Action Plan

In 1987, Hamilton Harbour was designated as a Great Lakes Area of Concern (AOC) by the International Joint Commission (IJC). Industrial activity and residential sewage had polluted the water and contaminated the sediment, fish and wildlife populations were stressed, and most wetland areas had been filled. The Harbour ecosystem was severely degraded. In 1992, the Hamilton Harbour Remedial Action Plan (HHRAP) was developed to identify the environmental problems that affect the Harbour, how these problems can be resolved, who is responsible for implementing solutions, and when activities should happen. A strength of the HHRAP is its stakeholder approach in reaching consensus-based decisions, but successes have come slower than first imagined.

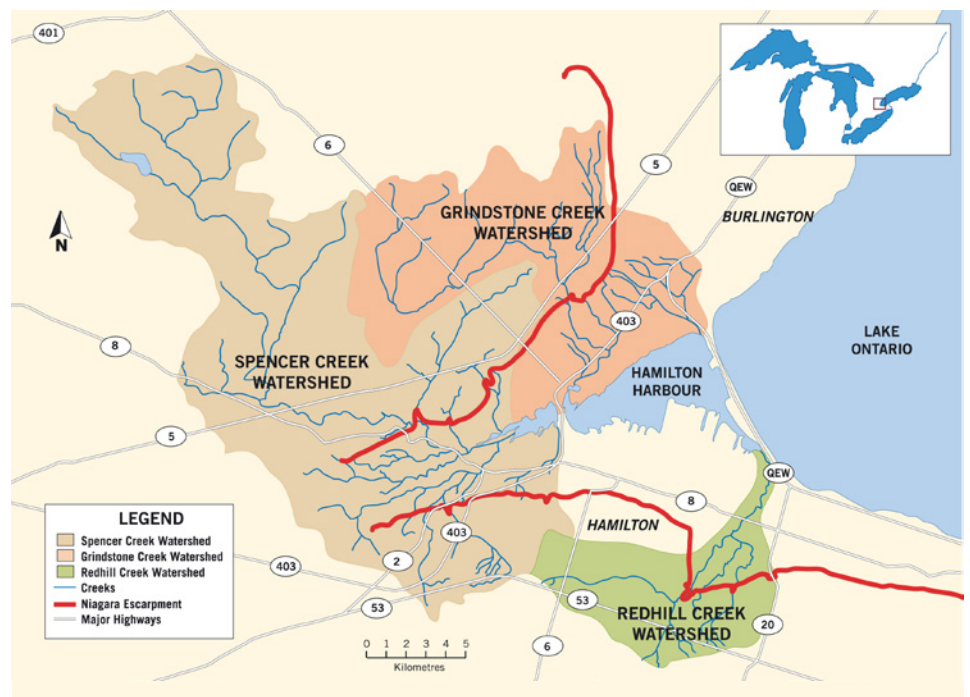
The delisting objectives of the HHRAP describe the conditions necessary to declare the Harbour remediated and remove it from the IJC's list of AOCs. The

original goal of the HHRAP was to delist Hamilton Harbour by 2015. While much progress has been made, delisting will require completion of at least two large-scale projects: upgrading the Woodward wastewater treatment plant (WWTP) to tertiary treatment, and the in-water portion of the Randle Reef sediment containment project. Completion of both is anticipated by 2020. However, beyond just completing remedial actions by 2020, actual delisting requires that the ecosystem respond to those actions in ways that demonstrate that the final HHRAP objectives for water and environmental quality have been reached, and that response may take longer to recognize.

Hamilton Harbour

Also known as Burlington Bay, Hamilton Harbour is the largest naturally-protected harbour on western Lake Ontario and one of the busiest commercial ports on the Great Lakes. It is separated from Lake Ontario by a sandbar, with the Burlington ship canal as its only access point. Approximately 46 percent of the Harbour's 45 kilometre shoreline is composed of industrial uses; 10 percent is residential, and the remaining 44 percent is private, institutional, or public open space. The Hamilton Harbour watershed encompasses approximately 500 square kilometres, and includes the City of

Hamilton (including the communities of Ancaster, Dundas, Waterdown, and Flamborough), the City of Burlington, and the Township of Puslinch. Four major creek systems drain into Hamilton Harbour – Red Hill Creek, Spencer Creek (including Chedoke Creek), Grindstone Creek, and a number of smaller creeks along the north shore of the Harbour (such as Indian Creek).



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The Bay Area Restoration Council represents the public interest in efforts to restore and protect the ecosystem health of Hamilton Harbour and its watershed. The 2012 *Toward Safe Harbours Report Card* assesses the progress of Remedial Action Plan activities to restore the Harbour, and more broadly characterizes the overall ecosystem health of the Harbour and its watershed.



Water Quality and Bacterial Contamination

Desired Outcome: Healthy harbour water quality

C+ 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> \$200-million federal/provincial commitment for Woodward wastewater treatment plant (WWTP) upgrades. Hamilton commissioned one combined sewer overflow (CSO) tank and built two additional tanks. \$103 federal/provincial commitment for Skyway WWTP upgrades currently underway. 	<ul style="list-style-type: none"> Completion of ongoing Woodward WWTP upgrades possibly delayed until 2020 or beyond. Endocrine disrupting compounds (EDCs) and pharmaceuticals appearing in treated WWTP effluent. Toxic cyanobacteria blooms continue to occur annually and remain problematic. 	<ul style="list-style-type: none"> Upgrades to Woodward WWTP should be completed as soon as possible. Optimization of Dundas and Woodward WWTPs. Study the impact of EDCs and pharmaceuticals on fish and wildlife populations.

Desired Outcome: Beaches open at west end of harbour

D+ 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> Waterfowl exclusion and beach cleaning at Pier 4 Beach reduced E. coli counts and increased swimming days. Pier 4 Beach safe for swimming 81% of the 2011 swimming season. BARC launched the "Don't Feed Waterfowl" campaign. 	<ul style="list-style-type: none"> Bayfront Park Beach still posted as unsafe for more than half of each swimming season. Cyanobacteria blooms are causing some beach postings. 	<ul style="list-style-type: none"> Additional programs to reduce E. coli at Harbour beaches, including waterfowl exclusion and investigations of other significant sources of beach contamination. Continued improvements to the operation of CSO tanks to reduce nutrient inputs.



Toxic Substances and Sediment Remediation

Desired Outcome: Reduce and eliminate discharges and spills

B 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> Amendments to the provincial Pesticides Act to ensure adequate storage and notification. Ontario Ministry of the Environment (MOE) implemented new regulations related to toxics reduction, spill prevention, and enforcement of penalties. Woodward and Dundas WWTPs upgraded to produce non-chlorinated effluent. 	<ul style="list-style-type: none"> Future spills are still a possibility. 	<ul style="list-style-type: none"> A final report summarizing the recovery of Spencer Creek following the 2007 Biedermann fire and douse water spill and associated mitigation actions.

Desired Outcome: Clean up contaminated sediment in harbour

D 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> Environmental Assessment of the Randle Reef project proposal completed. Engineered Containment Facility (ECF) design for contaminated sediment completed and peer-reviewed in 2012. Majority of project funding committed by federal, provincial, and local governments, the Hamilton Port Authority, and U.S. Steel Canada. 	<ul style="list-style-type: none"> Construction of Randle Reef Containment Facility (ECF) has not yet begun. Potential for increasing cost to remediate Randle Reef. 	<ul style="list-style-type: none"> In-water portion of the Randle Reef sediment remediation project started as soon as possible. Federal and provincial approval for remediation of the ArcelorMittal Dofasco boat slip.



Research and Monitoring

Desired Outcome: Monitor harbour environmental conditions

A 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> Federal and provincial agencies, Royal Botanical Gardens (RBG), and municipalities maintained or increased environmental monitoring and research programs. MOE has undertaken extensive studies on PCBs in Windermere Arm area. HHRAP Library project has catalogued Harbour related materials. 	<ul style="list-style-type: none"> Funding for long-term monitoring and trend analysis is not assured, and as of 2012, federal scientific staff are being reduced. Lack of monitoring of whole body burdens of contaminants in fish. Lack of monitoring of pharmaceuticals and emerging chemicals. 	<ul style="list-style-type: none"> Current monitoring programs in all areas of the HHRAP need to continue, and address information gaps identified in BARC Toward Safe Harbours reports.

Desired Outcome: Monitor environmental conditions in the watershed

B 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> MOE conducted water quality sampling in tributaries to improve non-point source nutrient loading estimates. Updating of the Nature Counts natural areas inventory. ReLeaf Hamilton evaluation of Hamilton's natural heritage system nears completion. 	<ul style="list-style-type: none"> Funding for long-term monitoring and trend analysis is not assured. 	<ul style="list-style-type: none"> Secure continued funding for watershed monitoring programs. Follow-up on event-based tributary monitoring is needed. Additional sites for Hamilton Conservation Authority's Aquatic Resources Monitoring Program.

Desired Outcome: Investigate new and emerging remediation technologies and techniques

B 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Future Action Needed
<ul style="list-style-type: none"> Marsh reconstruction project of national significance underway in Windermere Basin. Research on causes of bacterial contamination at beaches. Increased education related to selecting, installing, and maintaining erosion and sediment control measures at the site level. 	<ul style="list-style-type: none"> Ongoing review of best management practices and emerging technologies should continue in all areas of the HHRAP.



Fish and Wildlife

Desired Outcome: Restore fish and wildlife habitat and populations

B+ 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> Ten hectares of new terrestrial wildlife habitat completed at Windermere Basin; recreation of Windermere Basin marsh habitat underway. Farr Island converted into a spawning shoal targeting Lake Herring. Invasive Common Carp population continues to decline. 	<ul style="list-style-type: none"> Degraded water quality in most marsh areas continues to limit habitat suitability. Continuing urbanization of watershed threatens natural habitats. Further introductions of invasive species and disease have unknown impacts on fish and wildlife populations. 	<ul style="list-style-type: none"> Ongoing management of Ring-Billed Gulls, Canada Geese, Common Carp and other species as needed.

Desired Outcome: Reduce contaminant levels in fish and wildlife

C+ 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Future Action Needed
<ul style="list-style-type: none"> Fish tumour study on Brown Bullheads completed. 	<ul style="list-style-type: none"> Fish tumour study of Brown Bullheads needs to be repeated. A review of the status of fish consumption for Hamilton Harbour.



Desired Outcome: Set firm boundaries to discourage urban sprawl and preserve natural spaces and rural areas

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> Hamilton and Halton Official Plans include firm urban boundaries. Cootes to Escarpment Park System vision approved. 	<ul style="list-style-type: none"> Population growth will exert more pressure on existing natural areas and on urban infrastructure. Appeals to the Ontario Municipal Board of Hamilton urban boundaries. 	<ul style="list-style-type: none"> Continued efforts to engage the development industry in the HHRAP process. Implementation of Hamilton's Growth Related Integrated Development Strategy (GRIDS).

C+	2012 Grade <i>Hamilton</i>	↔	2012 Forecast <i>Hamilton</i>
B	2012 Grade <i>Burlington</i>	↑	2012 Forecast <i>Burlington</i>

Desired Outcome: Control erosion and implement storm water management

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> City of Hamilton storm water master plan completed. Marsh and interchange portion of Red Hill Creek restoration completed. Several erosion control site projects undertaken in Burlington and Hamilton. 	<ul style="list-style-type: none"> Lower Grindstone Creek continues to be filled with fine silt; Indian Creek experiences high concentrations of sediment during storm events. Increasing development will increase impacts from stormwater. 	<ul style="list-style-type: none"> Better sediment control techniques needed, especially in Cootes Paradise watershed. Increased maintenance of stormwater management infrastructure. More complete training and enforcement for municipal staff.

C	2012 Grade <i>Urban</i>	↓	2012 Forecast <i>Urban</i>
C+	2012 Grade <i>Rural</i>	↑	2012 Forecast <i>Rural</i>

Desired Outcome: Complete and implement watershed plans and encourage water conservation

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none"> Hamilton Conservation Authority implementing Stewardship Action Plans for all fifteen subwatersheds of Spencer Creek. Water metering in the City of Hamilton now complete. Conservation Halton completing updates for the Grindstone Creek and the North Shore watershed studies. 	<ul style="list-style-type: none"> Implementation of watershed plans dependent on timing, funding, and stakeholder participation. 	<ul style="list-style-type: none"> Programs to disconnect downspouts and distribute rain barrels continue with municipal support. A coordinated approach to implementing watershed plans. Watershed plans and strategies reviewed and assessed every five years.

B+	2012 Grade	↑	2012 Forecast
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Education and Public Information

Desired Outcome: Increase public understanding and appreciation of the harbour and watershed and its effect on quality of life

Progress to Date 2007-2012	Future Action Needed
<ul style="list-style-type: none"> Initiatives such as Hamilton Children's Water Festival engage the public. Hamilton-Halton Watershed Stewardship Program (HHWSP) workshops for landowners encourage good stewardship. BARC secures Ontario Trillium Foundation funding for a waterfront outreach location. 	<ul style="list-style-type: none"> Increased education to the public on endocrine disrupting chemicals and other emerging concerns. Continued multi-lingual education on consumption guidelines outlined in the MOE's Guide to Eating Ontario Sport Fish.

B+	2012 Grade	↑	2012 Forecast
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Desired Outcome: Educate the public to reduce the use of harmful products

Progress to Date 2007-2012	Future Action Needed
<ul style="list-style-type: none"> Yellow Fish Road™ program expands to more neighbourhoods. Stream of Dreams™ program educates about hazardous chemicals and their effect on the watershed. Organizations such as Green Venture and Environment Hamilton deliver programs to educate about harmful products. 	<ul style="list-style-type: none"> Additional funding required for sustaining and expanding public education programs.

B+	2012 Grade	↑	2012 Forecast
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Desired Outcome: Educate watershed residents regarding land stewardship

B 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Future Action Needed
<ul style="list-style-type: none">• HHWSP has helped landowners to decommission abandoned wells, implement agricultural best management practices, and improve and expand terrestrial and aquatic habitats.	<ul style="list-style-type: none">• Additional funding required for sustaining and expanding resident and landowner education programs.



Public Access and Aesthetics

Desired Outcome: Protect and enhance views and vistas

C+ 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Threats	Future Action Needed
<ul style="list-style-type: none">• Views at Windermere Basin enhanced by shoreline and habitat improvements.• Approved Cootes to Escarpment Park System includes protected vistas component.• Enhancement and softening of the shoreline at the Canada Centre for Inland Waters.	<ul style="list-style-type: none">• Water aesthetic concerns due to algal blooms and discoloured stormwater.• Bayfront Park area remains adjacent to abandoned lands and a rail yard.• Further shoreline development and intensification.	<ul style="list-style-type: none">• Implement the City of Hamilton's Waterfront Recreational Master Plan.• Balance the need for growth and intensification with the need for views and vistas.

Desired Outcome: Increase public access to 35% of harbour shoreline (formerly 25%)

A 2012 Grade  2012 Forecast

Progress to Date 2007-2012	Future Action Needed
<ul style="list-style-type: none">• Ten hectares of Windermere Basin terrestrial area and shoreline now accessible.• Trail connection across QEW connecting Lake Ontario shoreline to Red Hill Valley.• City of Hamilton Recreational Trails Master Plan complete.	<ul style="list-style-type: none">• Completion of Eastport Drive trail.• Implementation of West Harbour Recreation Master Plan.• Review trails for compliance with provincial Accessibility for Ontarians Act.

Together,
we're bringing
back the Bay!



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